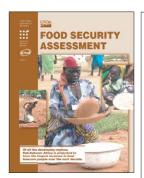
**Economic Research Service** 

May 2005

**U.S. Department of Agriculture** 



This is a summary of an ERS report.

Find the full report at www.ers.usda.gov/publications/gfa16

## **Food Security Assessment**

Shahla Shapouri, Stacey Rosen, and Birgit Meade

As we approach 2015, the milestone set by the World Food Summit in 1996 to reduce global hunger by half, how close are we? According to ERS projections, the number of people consuming below the nutritional requirement in 2014 will be about 27 percent lower than the 2004 estimate, due to unfavorable weather conditions. Performance by region varies significantly, with the sharpest decline projected for the Asian and Latin American/Caribbean regions, each at 46 percent. The Commonwealth of Independent States (CIS) region is projected to have an increase, but the number of people consuming below the requirement relative to total population will remain small. Sub-Saharan Africa is projected to suffer a 15-percent increase in the number of people with a consumption shortfall.

## What Is the Issue?

The latest FAO report *The State of Food Insecurity in the World, 2004*, states that, in aggregate, the number of undernourished people in developing countries has increased since the second half of the 1990s. According to this report, the number of chronically undernourished people worldwide was estimated at 852 million in 1999-2001. Of this estimate, about 95 percent were in developing countries. The report shows that the incidence of undernutrition declined in Asia and Latin America, but rose in the Middle East, North Africa, and Sub-Saharan Africa.

## What Did the Project Find?

Food security indicators for the 70 lower income countries studied here deteriorated in 2004 relative to 2003, largely due to weather-related events. The number of hungry people was estimated to have risen by roughly the same rate, reaching almost 1.1 billion for 2004. The volume of food needed to maintain per capita consumption and to reach nutritional requirements (see box) are estimated at 11 million tons and 14 million tons for 2004. When uneven income and food consumption within countries are taken into account, food needs increase to 31 million tons. Projections for 2014 show a decline in the number of hungry people in all regions except in Sub-Saharan Africa, which has no prospects for improvement. The region has the potential to expand food production and imports but requires "political will" to mobilize its resources.

Key forces that influence food availability of lower income countries are domestic production, commercial imports, and food aid. In many low-income countries, domestic production accounts for most of the food supply as foreign exchange constraints limit imports. In recent decades, about half of all gains in crop yields have been attributed to increased use of conventional inputs, especially fertilizer and irrigation water; the remainder was due to genetic improvements in seeds. In the most food-insecure countries, however, expansion of land continues to play a key role in food production growth. Nearly all of Sub-Saharan Africa's production growth was due to area expansion; yield growth was negligible. The region's grain yields per hectare are the lowest in the world, measuring about one-third of world averages.

ERS is the main source of research and analysis from the U.S. Department of Agriculture, providing timely information on economic and policy issues related to agriculture, food, the environment, and rural America.

In addition to inadequate production growth—on a per capita basis—short-term production shocks intensify the food security problems in many of these countries. Extreme weather events, though significant, are not the only cause of short-term production shocks. Political instability can also be a contributing factor.

Domestic food production is less critical to food security if countries can import required foods. The problem is financial constraints and the fact that most food-insecure countries depend on imports not only for food, but for other essential commodities like fertilizers, fuels, medicine, and essential manufacturing inputs and products. These nonfood items can comprise a large share of the total import bill. In Sub-Saharan Africa, for example, fuel imports were about 16 percent of the total value of imports in 2002. Given the current hike in oil prices, these countries must make hard choices in importing commodities.

Food aid has been a major means by which the international community improves food access and reduces suffering in low-income countries. The global quantity of food aid has fluctuated during the last two decades, and its share has declined relative to both total exports of food aid suppliers and total food imports of low-income countries. By far the largest recipient of food aid in 2002 was North Korea, at 1.2 million tons, followed by Ethiopia, Afghanistan, and Pakistan, which each received about half a million tons. The major food aid donors are the United States, the European Union, Japan, and Canada.

## How Was the Project Conducted?

All historical and projected data are updated relative to the 2003 Food Security Assessment (FSA) report. Food production estimates for 2004 are preliminary, based on USDA data as of October 2004, with supplemental data from the FAO and the World Food Program (WFP). Financial and macroeconomic data are based on the latest World Bank data. Projected macroeconomic variables are either extrapolated based on calculated growth rates for the 1990s or are World Bank projections/estimations. Projections/estimates of food availability include food aid, with the assumption that each country will receive the 2001-2003 average level of food aid throughout the next decade.

This year, we have changed the format of the report. We treat food security by region and country in one section, with two additional sections devoted to the twin pillars of food availability: production and imports. One special article, "Genetically Engineered Corn in South Africa: Implications for Food Security in the Region" (David Schimmelpfennig, Stacey Rosen, and Carl Pray) reviews the importance of corn in the diet of most Southern African countries and the promise of genetically engineered varieties in alleviating hunger.

The food gaps are calculated using two consumption targets: 1) maintaining base per capita consumption or status quo (SQ), which is the amount of food needed to support 2001-2003 levels of per capita consumption; and 2) meeting nutritional requirements (NR), which is the gap between available food and food needed to support a minimum per capita nutritional standard. Comparison of the two measures, either for countries, regions, or the aggregate, indicates the two different aspects of food security: consumption stability and meeting the nutritional standard.